

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A circuit for detecting an electric current comprising:

a current transformer;

a buffer;

a diode configured constructed to detect a peak value of an input current using a diode having, the diode comprising an anode connected to a secondary winding of the current transformer at an input side of the circuit and a cathode connected to the buffer at an output side of the circuit;

[[and]] a capacitor having one end connected to the cathode of the diode and the other end being grounded connected to a ground potential and configured to output a detected peak value of the input current via the buffer at the secondary winding of the current transformer; and

wherein the circuit further comprises a zener diode having connected between the diode and the buffer, said zener diode comprising a cathode connected to both the cathode of the diode and an input terminal of the buffer, and an anode being grounded connected to a ground potential.
2. (Canceled)

3. (Currently Amended) A circuit for detecting an electric current comprising:  
a current transformer;  
a buffer;  
a diode configured constructed to detect a peak value of an input current  
diode having, the diode comprising an anode connected to a secondary winding  
of the current transformer at an input side of the circuit and a cathode connected  
to the buffer at an output side of the circuit;  
[[and]] a capacitor having one end connected to the cathode of the diode  
and the other end being grounded connected to a ground potential and  
configured to output a detected peak value of the input current via the buffer at  
the secondary winding of the current transformer;  
wherein the circuit further comprises: a zener diode having connected  
between the diode and the buffer, said zener diode comprising a cathode  
connected to both the cathode of the diode and an input terminal of the buffer  
and an anode being grounded connected to a ground potential; and  
a shunt resistor having one end connected to both the cathode of the  
diode and the input terminal of the buffer and the other end being grounded  
connected to a ground potential.